

AMENDMENT TO THE CLAIMS

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Cont

1. (Currently Amended) A ~~structure for mounting~~ a stereo camera apparatus comprising:

a main camera taking photograph of an object ~~in a shooting direction~~; and

a sub-camera taking photograph of said object from a point of view different from a point of view of said main camera, said main camera and sub-camera being disposed with a predetermined spacing, a shooting direction of said stereo camera is substantially perpendicular to said predetermined spacing in a baseline between the main camera and the sub-camera ~~in a direction substantially perpendicular to the shooting direction~~,

wherein optical axes of said main camera and said sub-camera are inclined toward the main camera side with respect to the shooting direction between said camera and said sub-camera.

2. (Currently Amended) The ~~structure for mounting the~~ stereo camera apparatus as recited in claim 1, further comprising:

image processing means for calculating a three-dimensional distance distribution of said object based on a positional difference between a region in a reference image photographed by said main camera and a corresponding area in a comparative image photographed by said sub-camera to an image signal of said region,

wherein said corresponding area is searched in a search area having predetermined length which extends from a position substantially corresponding to said region, said positional difference is obtained from an area which capable of setting said search area inside of said comparative image,

wherein angles of inclination of said main camera and said sub-camera are set to be such angles that said three-dimensional distribution being ~~make an area~~ substantially left-right symmetric with respect to a central axis of a vehicle parallel to the shooting direction, ~~said area being an area of three dimensional distance distribution obtained on the basis of images photographed by said cameras.~~

3. (Currently Amended) The ~~structure for mounting the~~ stereo camera apparatus as recited in claim 1, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera.

4. (Currently Amended) The ~~structure for mounting the~~ stereo camera apparatus as recited in claim 2, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera.

5. (Currently Amended) The ~~structure for mounting the~~ stereo camera apparatus as recited in claim 1, further comprising:

a camera stay for mounting said cameras thereon, wherein a longitudinal direction of said camera stay is substantially perpendicular to the shooting direction.

6. (Currently Amended) The ~~structure for mounting the~~ stereo camera apparatus as recited in claim 1, wherein each of said cameras is made of CCD camera.

7. (Currently Amended) The ~~structure for mounting the~~ stereo camera apparatus as recited in claim 1, wherein said cameras are mounted in the vicinity of a rear-view mirror of a vehicle, said cameras taking photographs of views outside the vehicle.

8. (Canceled)

9. (Currently Amended) The ~~structure for mounting the~~ stereo camera apparatus as recited in claim 1 8,

wherein a first ~~an~~ acute angle defined between said optical axis of said main camera and the baseline ~~direction~~ is larger ~~smaller~~ than a second ~~an~~ acute angle defined between said optical axis of said sub-camera and the baseline ~~direction~~.

10. (New) The stereo camera apparatus as recited in claim 9,

wherein the first acute angle is larger than the second acute angle in order to provide a search margin in a comparative image photographed by said sub-camera to enable detection of an infinite distance corresponding point positioned at an end of said sub-camera side in a reference image taken by said main camera.

11. (New) The stereo camera apparatus as recited in claim 2, wherein a first acute angle defined between said optical axis of said main camera and the baseline is larger than a second acute angle defined between said optical axis of said sub-camera and the baseline.

12. (New) The stereo camera apparatus as recited in claim 11, wherein said first acute angle is larger than said second acute angle in order to provide a search margin in said comparative image to enable detection of an infinite distance corresponding point positioned at an end of said sub-camera side in said reference image.

13. (New) The stereo camera apparatus as recited in claim 3, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera in order to provide a search margin in a comparative image photographed by said sub-camera to enable detection of an infinite distance corresponding point positioned at an end of said sub-camera side in a reference image taken by said main camera.

14. (New) The stereo camera apparatus as recited in claim 4, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera in order to provide a search margin in said comparative image to enable detection of an infinite distance corresponding point positioned at an end of said sub-camera side in said reference image.

15. (New) A stereo camera apparatus comprising:

a main camera taking photograph of an object in a shooting direction; and

a sub-camera taking photograph of said object from a point of view different from a point of view of said main camera, said main camera and sub-camera being disposed

with a predetermined spacing in a direction substantially perpendicular to the shooting direction,

wherein optical axes of said main camera and said sub-camera are inclined toward the main camera side with respect to the shooting direction between said camera and said sub-camera.

16. (New) The stereo camera apparatus as recited in claim 1, wherein angles of inclination of said main camera and said sub-camera are set to be such angles that make an area substantially left-right symmetric with respect to a central axis of a vehicle parallel to the shooting direction, said area being an area of three-dimensional distance distribution obtained on the basis of images photographed by said cameras.

17. (New) The stereo camera apparatus as recited in claim 15, wherein the optical axis of said sub-camera is inclined toward said sub-camera side with respect to the optical axis of said main camera.

18. (New) The stereo camera apparatus as recited in claim 15, further comprising:

a camera stay for mounting said cameras thereon, wherein a longitudinal direction of said camera stay is substantially perpendicular to the shooting direction.

19. (New) The stereo camera apparatus as recited in claim 15, wherein each of said cameras is made of CCD camera.

20. (New) The stereo camera apparatus as recited in claim 15, wherein said cameras are mounted in the vicinity of a rear-view mirror of a vehicle, said cameras taking photographs of views outside the vehicle.